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LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

THE CLAIMS:

Claims 1-22 (Canceled)

23. (Currently amended) A method for carrying information modulated on at least two optical carriers, a first one of the carriers having a first wavelength and a second one of the carriers having a second wavelength, and for recovering and transmitting first information modulated on the first carrier and second information modulated on the second carrier, the method comprising:

demultiplexing the first carrier from a fiber;

demultiplexing the second carrier from the fiber;

multiplexing the first carrier on the fiber;

multiplexing the second carrier on the fiber; and

receiving and transmitting first and second information, wherein receiving and transmitting the first and second information comprising comprises:

demodulating first information and modulating first information on the first carrier before the first carrier is placed on the fiber; and

demodulating second information and modulating second information on the second carrier before the second carrier is placed on the fiber; and

routing the at least two optical carriers, wherein when the first carrier is not capable of transmitting first information over the fiber, the first information is modulated on the second carrier for transmission over the fiber.

24. (New) An apparatus for carrying information modulated on at least two optical carriers, a first one of the carriers having a first wavelength and a second one of the carriers having a second wavelength, and for recovering and transmitting first

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information modulated on the first carrier and second information modulated on the second carrier, the apparatus comprising:

a closed loop optical fiber for propagating the optical carriers; and

at least two nodes, each comprising:

a demultiplexer for extracting the first carrier from a fiber;

a demultiplexer for extracting the second carrier from the fiber;

a multiplexer for injecting the first carrier on the fiber;

a multiplexer for injecting the second carrier on the fiber;

a first and second receiver and transmitter for receiving and transmitting first and second information, each comprising:

a demodulator for demodulating first information and a modulator for modulating first information on the first carrier before the first carrier is placed on the fiber; and

a demodulator for demodulating second information and a modulator for modulating second information on the second carrier before the second carrier is placed on the fiber;

a first and second switch each having two inputs, two outputs, and two operational states, the operational states comprising:

coupling the first input to the first output and the second input to the second output during the first operational state;

coupling the first input to the second output and the second input to the first output during the second operational state; and

the two inputs and two outputs configured such that:

the first input of the first switch is coupled to the first transmitter;

the second input of the first switch is coupled to the second receiver;

the second output of the first switch is coupled to the second input of the second switch;

the first output of the first switch is coupled to the first transmitter; and

the second output of the second switch is coupled to the second transmitter,

wherein when the first carrier is not capable of transmitting first information over

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the fiber, the first information is modulated on the second carrier for transmission over the fiber.

25. (New) The apparatus of claim 2 further comprising:

a third optical carrier having a third wavelength, wherein the first demultiplexer extracts the third carrier from a fiber, and the first multiplexer injects the third carrier on the fiber; and

a third receiver and transmitter for receiving and transmitting the third information, comprising a demodulator for demodulating third information and a modulator for modulating third information on the third carrier before the first carrier is placed on the fiber.

26. (New) The apparatus of claim 3, further comprising the first and second switch each having a third input and output port, and four operational states, the operational states comprising:

coupling the first input to the first output, the second input to the second output, and the third input to the third output during the first operational state;

coupling the first input to the second output, the second input to the first output, and the third input to the third output during the second operational state;

coupling the first input to the second output, the second input to the third output, and the third input to the second output during the third operational state;

coupling the first input to the third output, the second input to the second output, and the third input to the first output during the fourth operational state;

the three inputs and three outputs configured such that:

the first input of the first switch is coupled to the first receiver;

the second input of the first switch is coupled to the second receiver;

the third input of the first switch is coupled to the third receiver; and

the third output of the first switch is coupled to the third input of the second switch, wherein when one of the first and third carriers is not capable of transmitting one of the first and third information over the fiber, the one of the first and third information is modulated on the second carrier for transmission over the fiber.

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27. (New) The apparatus of claim 4 further comprising a fourth optical carrier having a fourth wavelength, wherein the fourth optical carrier passes through at least one of the two nodes without being extracted from the fiber.

28. (New) The apparatus of claim 5 wherein the fiber propagates the fourth optical carrier through the first and second demultiplexers and through the first and second multiplexers.

29. (New) A method for carrying information modulated on at least two optical carriers, a first one of the carriers having a first wavelength and a second one of the carriers having a second wavelength, and for recovering and transmitting first information modulated on the first carrier and second information modulated on the second carrier, the method comprising:

demultiplexing the first carrier from a fiber;

demultiplexing the second carrier from the fiber;

multiplexing the first carrier on the fiber;

multiplexing the second carrier on the fiber; and

receiving and transmitting first and second information, wherein receiving and transmitting first and second information comprising:

demodulating first information and modulating first information on the first carrier before the first carrier is placed on the fiber; and

demodulating second information and modulating second information on the second carrier before the second carrier is placed on the fiber; and

routing the at least two optical carriers wherein when the first carrier is not capable of transmitting first information over the fiber, the first information is modulated on the second carrier for transmission over the fiber.